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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,086	11/26/2001	Gerhard Schnabel	514413-3884	6212

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EXAMINER

CLARDY, S

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,086

Applicant(s)

SCHNABEL ET AL.

Examiner

S. Mark Clardy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 71-87,89,90 and 92-106 is/are pending in the application.
- 4a) Of the above claim(s) 104-106 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 71-87,89,90 and 92-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claims 71-87, 89-90, and 92-106 are pending in this application in which a Request for Continued Examination (RCE) has been filed. The application was originally filed under 35 USC 371 as a national stage application of PCT/EP00/00469, filed January 22, 2000.

The claim numbering is improper because claims 88 and 91 are missing. A corrected claim set is required. Examination has proceeded using the claim numbers as filed.

Applicants' claims are drawn to:

- a) sulfonylurea herbicides, trimethylsulfonium salts ($M^+ = SMe_3$), claims 87, 89-90, 92-102;
- b) formulations comprising the trimethylsulfonium sulfonylurea salts, claims 71-86, 103;
- c) formulations comprising phosphonium or sulfonium sulfonylurea salts, claims 104-106.

This application lacks unity of invention under 37 CFR 1.475 (MPEP 1850, 1893.03(d)). In response to the requirement for restriction and election of species prior to the RCE, applicants have elected the invention of Group I, drawn to sulfonylurea compounds (formula Ia) and compositions. Applicants further elected, with traverse, the species within Group I comprising the sulfonylurea herbicide iodosulfuron-methyl SMe_3 (page 28, Table 4, compound 1). The election of species has been expanded to include trialkylsulfonium salts, in addition to the trimethylsulfonium salt.

Claims 104-106 have been held withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 14, 2003.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the

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limitations of an allowed generic claim as provided by 37 CFR 1.141 . If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP 809.02(a).

Comparative data has been presented in Table 1 at the end of the specification (note that there is another Table 1 on page 25), but it cannot be determined whether the elected compound is any of the tested herbicides (identified as compounds 4.2, 3.6, or 4.14; presumably referring to some of the compounds in Tables 3 and 4, pages 26 and 28). The designations in the various tables are not the same. The comparative data in the declaration shows that the elected species (trimethylsulfonium salt of iodosulfuron-methyl) forms an emulsifiable concentrate (EC), whereas iodosulfuron itself, or the sodium salt thereof, does not. Claims drawn to the elected species, and emulsifiable concentrates thereof, would be found allowable over the prior art of record in view of the declaration data.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 71, 87, and 103 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 71, structures III, IVa, and IVb are identified as a heterocyclic radical, but have instead a phenyl ring. (See also withdrawn claims 104-106.) Claim 87 is dependent on cancelled claim 1. In claim 103, the cation is SCH_3^+ ; it appears that it should read either SMe_3^+ or $\text{S}(\text{CH}_3)_3^+$.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 71-87, 89-90, and 92-102, are rejected under 35 U.S.C. 102(a), (b), and (e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mayer et al (US 6,413,911).

Mayer et al, again, teach the combination of sulfonylurea herbicide salts, preferably trialkylsulfonium salts, in herbicidal compositions which may further comprise conventional agrochemical formulation additives such as wetting agents, dispersants, or emulsifiers (columns 8-9). The trimethylsulfonium salts are not explicitly disclosed. Applicants argue that Mayer et al do not teach phosphonium or sulfonium salts; however, the trialkylsulfonium salts are explicitly taught. It is also argued that stable liquid or solid formulations are not taught; however, Mayer does disclose customary formulations as discussed above. Further, applicants' claims are not limited by any characteristics of the final formulations.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 71-87, 89-90, and 92-102, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hacker et al (PCT WO 96/41537) in view of Gesing et al (US 6,451,737) and Mayer et al (US 6,413,911).

Hacker et al teach that, among other known sulfonylurea herbicides, iodosulfuron-methyl was a known herbicidal agent (abstract, $R^1 = C_1$ alkyl; page 5, lines 22-33), and that agriculturally acceptable salts (e.g., Na, K, ammonium) were known to be herbicidally useful as well (page 6, lines 1-7). Trimethyl (or trialkyl) sulfonium salts are not disclosed.

Gesing et al and Mayer et al teach that, in addition to sodium, potassium, ammonium, and other conventional salts, the trimethylsulfonium salts of sulfonylurea herbicides were known in the art (Gesing et al, claim 1', Mayer et al, col 8, lines 16-41). (The sulfonylurea compounds of Gesing differ from iodosulfuron in the substituents on the phenyl ring, while the sulfonylurea herbicides of Mayer et al differ in the 4,6-substituents on the triazine ring, and have non-fluorine halogen substituents on the phenyl ring.) Mayer et al also teaches the methods of making salts of sulfonylurea herbicides, and also teaches that the trialkylsulfonium salts are preferable (col 8, lines 39-40).

One of ordinary skill in the art would be motivated to combine these references because they teach that salts of sulfonylurea herbicides retain herbicidal utility, and that variations in these peripheral substituents result in improved herbicidal activity and crop safety (Gesing et al, column 1).

Thus it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have made the trimethylsulfonium or other trialkylsulfonium salt of sulfonylurea herbicides because this herbicide was known in the art and because the trialkylsul-

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fonium salts, like the more common examples of sodium, potassium, and ammonium salts, were known in the art. Further, Mayer et al teaches that the trialkylsulfonium salts are preferable.

Applicants' data demonstrates unexpected results in comparing the trimethylsulfonium salt of iodosulfuron with iodosulfuron itself, and its sodium salt, for forming EC formulations; thus claims drawn to this species will be allowable. Claim 103 appears to have been intended to be directed to the elected species; however, it is not specifically drawn to an emulsifiable concentrate as tested in the declaration, nor is the cation correct (as noted above).

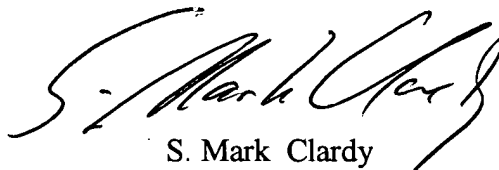
Further, objective evidence of nonobviousness must be commensurate in scope with the scope of the claims. In re Tiffin, 171 USPQ 294. A showing limited to a single species cannot be considered probative of the invention's nonobviousness in view of the breadth of the claims.

No other unobvious or unexpected results are noted; no claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on 571-272-0887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Mark Clardy
Primary Examiner
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March 29, 2005